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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,513	09/18/2006	Takayuki Kondo	P/1878-199	1687

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EXAMINER
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WANG-HURST, KATHY W

ART UNIT	PAPER NUMBER
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2617

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08/03/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/593,513	<b>Applicant(s)</b> KONDO, TAKAYUKI	
	<b>Examiner</b> KATHY WANG-HURST	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's amendment filed on 5/13/2009 has been entered. Claim 1 has been amended. Claims 1-10 are still pending in this application.

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

The prior art of record Chen has been modified with new reference Terasawa. For clarification applicant's arguments regarding the prior reference are addressed below with explanation of the new reference.

The argued features in claims, i.e. a radio communications system performing handover functions over the air involving radio base stations and a mobile station wherein a common resource unit processes signals and a buffer unit sends received signals to process with different timings based on if the signal of a call is in a diversity handover state or not, reads upon Chen in view of Terasawa, as follows.

Chen discusses a 3G network performing diversity/soft handovers. Thus Chen shows the limitation of "in a radio communications system having a diversity hand-over function, a radio base station apparatus for transmitting/receiving a signal to/from a mobile station over the air". Chen discusses all the incoming packets are queued and scheduled to process for delivery, therefore a shared resource unit processing each call. Thus Chen shows the limitation of "said radio base station apparatus comprising: a shared resource unit having a processing device, as a shared resource, for

Art Unit: 2617

processing a signal of each call". Chen discusses queuing incoming calls. Thus Chen shows the limitation of "a buffer unit". Chen discusses the base station being operative to communicate the data to an associated controller based on whether soft handover of the user terminal to another base station is occurring, and transmitting data with priority timing. Thus Chen shows the limitation of "for sending a received signal to said processing device of said shared resource unit when the received signal is a signal of a call which is in a diversity hand-over state". Chen discusses for non-priority packets, data are treated on a best effort basis therefore processing data whenever resource is available. Thus Chen shows the limitation of "and for holding the received signal in a data buffer, when the received signal is not a signal of a call which is in a diversity hand-over state, and for subsequently sending the received signal to said processing device at a timing at which said processing device becomes available". Chen discloses a call which is in a diversity handover state is of high priority and transmitted at a prioritized timing ([0023]) but does not specifically disclose the call is transmitted at a predetermined timing synchronized for multiple base stations. Therefore Terasawa was used to show that such feature is obvious to one skilled in the art.

Therefore, the argued limitations read upon the cited references or are written broad such that they read upon the cited references, as follow.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2617

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, and 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (US 2003/0161284) in view of Terasawa (US 2002/122396).

Regarding Claim 1, Chan discloses a radio communications system having a diversity hand-over function, a radio base station apparatus for transmitting/receiving a signal to/from a mobile station over the air (at least see Abstract[0027][0028][0029][0112], 3G network with diversity/soft handover), said radio base station apparatus comprising: a shared resource unit having a processing device, as a shared resource, for processing a signal of each call ([0107]-[0111] all the incoming packets are queued and scheduled to process for delivery, therefore a shared resource unit processing each call); and a buffer unit (i.e. see [0023][0114]-[0119], queuing therefore buffer unit) for sending a received signal to said processing device of said shared resource unit when the received signal is a signal of a call which is in a diversity hand-over state ([0023][0028][0108]-[0111]), such that the received signal can be transmitted at a prioritized timing ([0023][0028][0108]-[0111], calls on soft handoff are classified as high priority thus take precedence over other calls in the queue), and for holding the received signal in a data buffer ([0112]), when the received signal is not a signal of a call which is in a diversity hand-over state ([0100][0097][0108][0125]), and for subsequently sending the received signal to said processing device at a timing at which said processing device becomes available([0100][0097][0108][0125] for non-priority packets, data are treated on a best effort basis therefore processing data whenever resource is available).

Art Unit: 2617

Chen discloses a call which is in a diversity handover state is of high priority and transmitted at a prioritized timing ([0023]) but does not specifically disclose the call is transmitted at a predetermined timing synchronized for multiple base stations.

Terasawa teaches the call is transmitted at a predetermined timing synchronized for multiple base stations (see at least [0070][0071][0079]).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the invention of Chen, to transmit important data at predetermined timing so that signals from multiple base stations arrive at the same time, as taught by Terasawa, thus allowing a better signal quality by combining signals from multiple base stations ([0070][0071][0079]).

Regarding Claim 2 , Chen discloses the radio base station apparatus according to claim 1, wherein said signal transmitted/received to/from said mobile station is packet data for a packet communication which allows a delay in the radio communications system ([0023][0097] delivery latency and therefore delay).

Regarding Claims 3, 4, 6 and 7, Chen in view of Terasawa discloses a 3G network wherein signals are encoded before transmission over the air using designated codes, and decoded using designated code after signals are received.

Regarding Claim 8, Chen discloses the radio base station apparatus according to claim 7, wherein said priority timing is determined such that a signal decoded by said decoder from the uplink signal received from said mobile station is received by said base station controller at the same timing as the same signal that is received from said

Art Unit: 2617

same mobile station and that is decoded by other radio base stations through diversity hand-over ([0015][0049][0054]).

Chen discloses a call which is in a diversity handover state is of high priority and transmitted at a prioritized timing ([0023]) but does not specifically disclose the call is transmitted at a predetermined timing synchronized for multiple base stations.

Terasawa teaches the call is transmitted at a predetermined timing synchronized for multiple base stations (see at least [0070][0071][0079]).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the invention of Chen, to transmit important data at predetermined timing so that signals from multiple base stations arrive at the same time, as taught by Terasawa, thus allowing a better signal quality by combining signals from multiple base stations ([0070][0071][0079]).

Regarding Claim 9, Chen discloses the radio base station apparatus according to claim 1, wherein said shared resource unit and buffer unit are provided for a downlink signal to be transmitted to said mobile station over the air, and are provided for an uplink signal received from said mobile station over the air, respectively ([0014][0015][0049][0054]).

Regarding Claim 10, combination of Chen and Terasawa discloses the radio base station apparatus according to claim 9, wherein: said shared resource unit for the downlink signal comprises an encoder, as said processing device, for encoding the downlink signal in accordance with a predetermined coding scheme, said buffer unit for the downlink signal sends the received signal to said encoder of said shared resource

Art Unit: 2617

unit for the downlink signal, when the received signal from said base station controller is a signal of a call which is in a diversity hand-over state, such that the received signal can be transmitted to said mobile station at a timing specified by a frame number from said base station controller, and said buffer unit temporarily holds the received signal in the data buffer when the received signal is not a signal of a call in a diversity hand-over state, and subsequently sends the received signal to said encoder at a timing at which said encoder becomes available, said shared resource unit for the uplink signal comprises a decoder, as said processing device, for decoding the uplink signal in accordance with a predetermined coding scheme, and said buffer unit for the uplink signal sends the signal received from said mobile station to said decoder of said shared resource unit for the uplink signal, when the received signal from said mobile station is a call which is in diversity hand-over state, such that the signal received from said mobile station and decoded by said decoder can be received by said base station controller at the same timing as the same signals that are received from said same mobile station and that are decoded by other radio base stations through diversity hand-over, and said buffer unit holds the received signal in said data buffer, when the received signal is a signal of a call which is not in a diversity hand-over state, and subsequently sends the received signal to said decoder at a timing at which said decoder becomes available.

3. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Terasawa, further in view of Larsson et al (US 2003/0100318).

Regarding Claim 5, combination of Chen and Terasawa discloses the radio base station apparatus according to claim 4, but fails to explicitly disclose the radio base



Art Unit: 2617

station apparatus wherein said predetermined timing is specified by a frame number from said base station controller.

Larsson teaches predetermined timing is specified by a frame number from said base station controller ([0024]).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the invention of Chen in view of Terasawa, to specify the transmission timing by a frame number, as taught by Larsson, thus allowing a better timing mechanism ([0011]).

### ***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 2617

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KATHY WANG-HURST whose telephone number is (571) 270-5371. The examiner can normally be reached on Monday-Thursday, 7:30am-5pm, alternate Fridays, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nick Corsaro can be reached on (571) 272-7876. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KATHY WANG-HURST/  
Examiner, Art Unit 2617

/NICK CORSARO/

Application/Control Number: 10/593,513

Page 10

Art Unit: 2617

Supervisory Patent Examiner, Art Unit 2617